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**1 Virtualizing Transactional Memory**
☒ [Ravi Rajwar, Maurice Herlihy, Konrad Lai](#)

 June 2005 **ISCA '05: Proceedings of the 32nd annual international symp**
**Publisher:** ACM

 Full text available: ☒ [Pdf](#) (199.77 KB)

 Additional Information: [full citation](#), [abstract](#)
**Bibliometrics:** Downloads (6 Weeks): 17, Downloads (12 Months): 119, Downl

Writing concurrent programs is difficult because of the complexity of en  
Conventional lock-based synchronization suffers from wellknown limitat  
non-blocking transactions as an alternative. ...

Also published in:

 May 2005 **SIGARCH Computer Architecture News** Volume 33 Issue 2

**2 McRT-Malloc: a scalable transactional memory allocator**
☒ [Richard L. Hudson, Bratin Saha, Ali-Reza Adi-Tabatabai, Benjamin C. Hertz](#)

 June 2006 **ISMM '06: Proceedings of the 5th international symposium on**
**Publisher:** ACM [Request Permissions](#)

 Full text available: ☒ [Pdf](#) (332.45 KB)

 Additional Information: [full citation](#), [abstract](#)
**Bibliometrics:** Downloads (6 Weeks): 13, Downloads (12 Months): 153, Downl

Emerging multi-core processors promise to provide an exponentially inc  
every generation. Applications will need to be highly concurrent to fully  
enable maximum concurrency, libraries ...

**Keywords:** memory management, runtimes, synchronization, transacti

**3 Analysis of locking behavior in three real database systems**
[Vigyan Singhal, Alan Jay Smith](#)

 February 1997 **The VLDB Journal — The International Journal on Very**
**Publisher:** Springer-Verlag New York, Inc.

 Full text available: ☒ [Pdf](#) (328.18 KB)

 Additional Information: [full citation](#), [abstract](#)
**Bibliometrics:** Downloads (6 Weeks): 6, Downloads (12 Months): 56, Downloa

Concurrency control is essential to the correct functioning of a database  
results. For this reason, and because concurrency control is a well-form  
enormous body of literature ...

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**Keywords:** Concurrency control, Trace-driven simulation, Workload characterizations

#### 4 The OpenTM Transactional Application Programming Interface

Woongki Baek, Chi Cao Minh, Martin Trautmann, Christos Kozyrakis, Kunle Oshinola  
September 2007 **PACT '07: Proceedings of the 16th International Conference on Compiler Techniques (PACT 2007) - Volume 00**, V

**Publisher:** IEEE Computer Society


Full text available:  Pdf (264.87 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 1, Downloads (12 Months): 65, Downloads (All Time): 100

Transactional Memory (TM) simplifies parallel programming by supporting identified tasks. To date, TM programming has required the use of libraries to achieve scalable performance with code ...

#### 5 Two models of concurrent objects

 O. M. Nierstrasz

April 1989 **Proceedings of the 1988 ACM SIGPLAN workshop on Object-based Programming**

**Publisher:** ACM

Full text available:  Pdf (256.25 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 40, Downloads (All Time): 100

We propose two models of concurrent objects that address, respectively, object-oriented programming languages. The first is a conceptual model for languages for concurrent and ...

Also published in:

April 1989 **SIGPLAN Notices** Volume 24 Issue 4

#### 6 'PRABHA'—a distributed concurrency control algorithm

 Albert Burger, Vijay Kumar

January 1990 **CSC '90: Proceedings of the 1990 ACM annual conference on Computer Science**

**Publisher:** ACM 


Full text available:  Pdf (657.36 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 2, Downloads (12 Months): 10, Downloads (All Time): 100


We propose a non-preemptive, deadlock free concurrency control mechanism. The algorithm uses a combination of transaction blocking and roll-back recovery locking mechanisms presented in the ...

#### 7 Non-blocking timeout in scalable queue-based spin locks

 Michael L. Scott

July 2002 **PODC '02: Proceedings of the twenty-first annual symposium on Principles of Distributed Computing**

**Publisher:** ACM 

Full text available:  Pdf (999.45 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 1, Downloads (12 Months): 34, Downloads (All Time): 100

Queue-based spin locks allow programs with busy-wait synchronization without fear of starvation or performance-destroying contention. Timeout-based spin locks abandon its attempt to acquire ...

**Keywords:** scalability, spin locks, synchronization, timeout

## 8 Supporting nested transactional memory in logTM



Michelle J. Moravan, Jayaram Bobba, Kevin E. Moore, Luke Yen, Mark D. Hill, Wood

November 2006 **ASPLOS-XII: Proceedings of the 12th international conference on programming languages and operating systems**

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) (239.03 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 11, Downloads (12 Months): 105, Downloads

Nested transactional memory (TM) facilitates software composition by letting either knowing whether the other uses transactions. **Closed nested transaction** until the toplevel ...

**Keywords:** logTM, nesting, transactional memory

Also published in:

October 2006 **SIGOPS Operating Systems Review** Volume 40 Issue 5

October 2006 **SIGARCH Computer Architecture News** Volume 34 Issue 5

November 2006 **SIGPLAN Notices** Volume 41 Issue 11

## 9 Transactions with isolation and cooperation



Yannis Smaragdakis, Anthony Kay, Reimer Behrendts, Michal Young

October 2007 **OOPSLA '07: Proceedings of the 22nd annual ACM SIGPLAN programming systems and applications**

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) (252.95 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 12, Downloads (12 Months): 152, Downloads

We present the TIC (Transactions with Isolation and Cooperation) mode to standard transactional memory the ability for a transaction to observe points. This allows transactions ...

**Keywords:** TIC, nested transactions, open-nesting, punctuation, transactional

Also published in:

October 2007 **SIGPLAN Notices** Volume 42 Issue 10

## 10 Approaches to fault-tolerant and transactional mobile agent execution



Stefan Pleisch, André Schiper

September 2004 **Computing Surveys (CSUR)**, Volume 36 Issue 3

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) (946.94 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 37, Downloads (12 Months): 344, Downloads

Over the past years, mobile agent technology has attracted considerable

literature has been published. To further develop mobile agent technology tolerance and transaction support ...

**Keywords:** ACID, Byzantine failures, agreement problem, asynchronous tolerance, malicious places, mobile agents, replication, security, transaction

# 11 [Split hardware transactions: true nesting of transactions using best-effort](#)

Yossi Lev, Jan-Willem Maessen

February 2008 **PPoPP '08: Proceedings of the 13th ACM SIGPLAN Symposium on Programming Languages and Operating Systems**

**Publisher:** ACM [Request Permissions](#)

Full text available: [PDF](#) (384.30 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 2, Downloads (12 Months): 83, Downloads (All Time): 100

Transactional Memory (TM) is on its way to becoming the programming model for concurrent, and scalable programs. Hardware TM (HTM) implementation is more efficient than pure software TM (STM); however, ...

**Keywords:** atomicity, nesting, transactional memory

# 12 [Maximum benefit from a minimal HTM](#)

Owen S. Hofmann, Christopher J. Rossbach, Emmett Witchel

February 2009 **ASPLOS '09: Proceeding of the 14th International Conference on Architectural Support for Programming Languages and Operating Systems**

**Publisher:** ACM [Request Permissions](#)

Full text available: [PDF](#) (457.43 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 17, Downloads (12 Months): 167, Downloads (All Time): 200

A minimal, bounded hardware transactional memory implementation significantly improves performance when used in an operating system kernel. We add HTM to a grain synchronization structure. The ...

**Keywords:** hardware transactional memory

Also published in:

February 2009 **SIGPLAN Notices** Volume 44 Issue 3

# 13 [Deadlock detection in distributed database systems: a new algorithm and analysis](#)

Natalija Krivokapić, Alfons Kemper, Ehud Gudes

October 1999 **The VLDB Journal — The International Journal on Very Large Data Bases**

**Publisher:** Springer-Verlag New York, Inc.

Full text available: [PDF](#) (289.96 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 23, Downloads (12 Months): 134, Downloads (All Time): 150

This paper attempts a comprehensive study of deadlock detection in distributed database systems and the four different deadlock models are discussed. Afterwards, a ...

**Keywords:** Comparative performance analysis, Deadlock detection, Dis study

14 [A new approach to developing and implementing eager database re](#)

Bettina Kemme, Gustavo Alonso

September 2000 **Transactions on Database Systems (TODS)**, Volume 25

**Publisher:** ACM [Request Permissions](#)

Full text available: [PDF](#) (449.43 KB)

**Additional Information:** [full citation](#), [abstra](#)

**Bibliometrics:** Downloads (6 Weeks): 32, Downloads (12 Months): 235, Downl

Database replication is traditionally seen as a way to increase the availa databases. Although a large number of protocols providing data consist proposed, few of these ideas have ...

**Keywords:** database replication, fault-tolerance, group communication replica control, total error multicast

15 [Maintaining consistency in a failure-prone P2P database network du](#)

Md Mehedi Masud, Iluju Kiringa

March 2008 **DaMaP '08: Proceedings of the 2008 international workshop i systems**

**Publisher:** ACM

Full text available: [PDF](#) (751.39 KB)

**Additional Information:** [full citation](#), [abstra](#)

**Bibliometrics:** Downloads (6 Weeks): 7, Downloads (12 Months): 66, Downloa

A peer database network consists of peers in which each peer has its ov (LDBS). In a peer database network, the integration of sources is perfor peer shares its local database information ...

16 [Dependence-aware transactional memory for increased concurrency](#)

Hany E. Ramadan, Christopher J. Rossbach, Emmett Witchel

November 2008 **MI CRO '08: Proceedings of the 2008 41st IEEE/ACM Inter**

**Publisher:** IEEE Computer Society

Full text available: [PDF](#) (529.01 KB)

**Additional Information:** [full citation](#), [abstra](#)

**Bibliometrics:** Downloads (6 Weeks): 6, Downloads (12 Months): 72, Downloa

Transactional memory (TM) is a promising paradigm for helping prograr core platforms. Though they perform well under low contention, hardwa performing well under high contention, ...

17 [Priority assignment in real-time active databases](#)

Rajendran M. Sivasankaran, John A. Stankovic, Don Towsley, Bhaskar Pur

January 1996 **The VLDB Journal — The International Journal on Very**

**Publisher:** Springer-Verlag New York, Inc.

Full text available: [PDF](#) (634.63 KB)

**Additional Information:** [full citation](#), [abstra](#)

**Bibliometrics:** Downloads (6 Weeks): 3, Downloads (12 Months): 37, Downloa

Active databases and real-time databases have been important areas of

recognized that many benefits can be gained by integrating real-time air traffic control. However, not much work has been done ...

**Keywords:** Active databases - Coupling mode - Deadlines - ECA - Prior

- 18 [Tolerating byzantine faults in transaction processing systems using consensus](#)  
Ben Vandiver, Hari Balakrishnan, Barbara Liskov, Sam Madden  
October 2007 **SOSP '07**: Proceedings of twenty-first ACM SIGOPS symposium on Operating Systems Review

**Publisher:** ACM [Request Permissions](#)

Full text available: [PDF](#) (390.75 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 13, Downloads (12 Months): 139, Downloads (Since Published): 139

This paper describes the design, implementation, and evaluation of a replication scheme for distributed database systems. The scheme compares replicated data with multiple replicas which are unmodified, ...

**Keywords:** byzantine fault tolerance, databases, state machine replication

Also published in:

October 2007 **SIGOPS Operating Systems Review** Volume 41 Issue 6

- 19 [Performance modeling of nested transactions in database systems](#)  
Hossam S. Hassanein, Mohamed E. El-Sharkawi  
November 2000 **CASCON '00**: Proceedings of the 2000 conference of the Canadian Society for Computational Studies in Communications  
Collaborative research

**Publisher:** IBM Press

Full text available: [PDF](#) (148.66 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 14, Downloads (12 Months): 49, Downloads (Since Published): 49

The nested transaction model was introduced to satisfy the requirements of object-oriented databases. Moreover, it is currently the basic transaction model for new databases and object-relational databases. ...

**Keywords:** nested transactions, performance evaluation, simulation, transaction processing

- 20 [User-level transactional programming in Haskell](#)  
Peter Thiemann  
September 2006 **Haskell '06**: Proceedings of the 2006 ACM SIGPLAN workshop on Haskell

**Publisher:** ACM [Request Permissions](#)

Full text available: [PDF](#) (212.38 KB)

Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 6, Downloads (12 Months): 100, Downloads (Since Published): 100

Correct handling of concurrently accessed external resources is a demanding task. Current standard approaches rely on database transactions or concurrency mechanisms. Managing two such resources, global variables and ...

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